6679/12AT7

HIGH-MU TWIN TRIODE

9-PIN MINIATURE TYPE

For use in mobile communications equipment

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

	Series	Parallel	
Heater arrangement	Series	Parallel	
Voltage	12.6 ± 20%*	6.3 ± 20%*	ac or dc volts
Current:			
At 12.6 volts	0.15	–	amp
At 6.3 volts	–	0.3	amp

Direct Interelectrode Capacitances (Approx.):

	Without External Shield	With External Shield°	
Grid-Drive Operation:			
Grid to plate (Each unit)	1.5	1.5	μμf
Grid to cathode and heater (Each unit)	2.2	2.2	μμf
Plate to cathode and heater:			
Unit No.1	0.5	1.2	μμf
Unit No.2	0.4	1.5	μμf
Cathode-Drive Operation:			
Plate to cathode (Each unit)	0.2	0.2	μμf
Cathode to grid and heater (Each unit)	4.6	4.6	μμf
Plate to grid and heater (Each unit)	1.8	2.6	μμf
Heater to cathode (Each unit)	2.4	2.4•	μμf

Characteristics, Class A_1 Amplifier (Each Unit):

Heater Voltage:		
For series connection	12.6	volts
For parallel connection	6.3	volts
Plate Supply Voltage	250	volts
Cathode Resistor	200	ohms
Amplification Factor	60	
Plate Resistance (Approx.)	10900	ohms
Transconductance	5500	μmhos
Plate Current	10	ma
Grid Voltage (Approx.) for plate μa = 10	-12	volts

Mechanical:

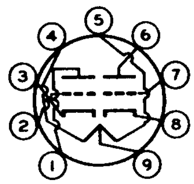
Operating Position	Any
Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	*See General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)

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Basing Designation for BOTTOM VIEW 9A

Pin 1 - Plate of Unit No.2
Pin 2 - Grid of Unit No.2
Pin 3 - Cathode of Unit No.2
Pins 4 & 9 - Heater of Unit No.2
Pins 5 & 9 - Heater of Unit No.1



Pin 6 - Plate of Unit No.1
Pin 7 - Grid of Unit No.1
Pin 8 - Cathode of Unit No.1
Pin 9 - Heater Mid-Tap

AMPLIFIER — Class A_1

Values are for Each Unit

Maximum Ratings, *Design-Maximum Values:*

PLATE VOLTAGE	330 max.	volts
GRID VOLTAGE:		
Negative-bias value	55 max.	volts
Positive-bias value	0 max.	volts
PLATE DISSIPATION	2.8 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	100 max.	volts
Heater positive with respect to cathode	100 max.	volts

* When the heater is operated from storage-battery-with-charger supply or similar supplies, the normal battery-voltage fluctuation may be as much as 35 per cent or more. Although such variation in heater voltage is permissible for short periods, reliability can be increased with improved supply-voltage regulation.

○ With external shield JEDEC No.315 connected to heater except as noted.

● With external shield JEDEC No.315 connected to ground.

SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:

This test is performed on a sample lot of tubes from each production run. A minimum of 2000 cycles of intermittent operation is applied under the following conditions: heater volts = 15 (Series connection) cycled one minute on and one minute off, heater 135 volts positive with respect to cathode, and all other elements connected to ground. At the end of this test, tubes are checked for heater-cathode shorts and open circuits.

Transconductance at Reduced Heater Voltage:

Average Value (Each unit) . . . . 4400 μmhos

With heater volts = 10 (Series connection), plate supply volts = 250, and cathode resistor (ohms) bypassed = 200